

REMARKS

Claim 12 is amended. Claims 1-20 remain in the application for consideration. In view of the following remarks, Applicant respectfully requests withdrawal of the rejections and forwarding of the application on to
5 issuance.

Claim Objections

The Office has objected to claims 1 and 9 for informalities pertaining to the word “user-engable” that apparently appears on page 25, claim 1, line 12
10 and on page 27, claim 9, line 2. Applicant has reviewed these claims and can find no such word. Accordingly, Applicant respectfully submits that the claims are in proper form.

§ 103 Claim Rejections

15 Claims 1-6 and 12-20 stand rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,331,867 to Eberhard et al. (hereinafter “Eberhard”) in view of U.S. Patent No. 6,407,763 to Yamaguchi et al. (hereinafter “Yamaguchi”).

Claims 7-11 stand rejected under § 103(a) over Eberhard in view of Yamaguchi and U.S. Patent No. 6,124,867 to Sakaue.

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Applicant's Disclosure

Before discussing the merits of the Office's rejections, the following discussion of Applicant's disclosure is provided to assist in understanding how Applicant's various claimed embodiments distinguish over the cited references.

25 Fig. 1 shows but one exemplary display reader embodiment generally at 100. Reader 100 comprises a housing 102 and, in one embodiment, reader 100 is sized to be conveniently portable by the user. The housing 102 is configured

to provide a display area 104 that is utilized to display content in the form of images that are presented to the user for viewing or reading. A control area 106 is provided and can include one or more user-engagable structures, e.g. buttons or other types of switch components, to permit the user to interact with the
5 reader 100.

Fig. 2 is a side view of the Fig. 1 reader with a portion broken away to show detail. In this embodiment, the display reader is configured as an electrophotographic printing device and comprises image processing components that include an electrophotographic assembly 200, and a print
10 media 202. Print media 202 is provided, in one embodiment, as a *continuous loop of material* that has physical, electrical and optical characteristics that allow it to function as a toner transport system that also acts as the image viewing background. *In one embodiment, the loop is constructed as an endless structure.*

15 In one embodiment, display reader 100 is configured for one-handed use. This advantageously frees up a user's other hand so that they can do other things. Specifically, the Fig. 1 embodiment is likely to be used by a user with both hands. The user might hold the display reader with one hand and use the other hand to manipulate the user-engagable structures within control area 106
20 to interact with the device. In one embodiment, however, the user-engagable structures are moved to a location on the housing 102 such that a user can conveniently use the display reader with only one-hand.

Fig. 2D shows but one exemplary display reader in which the user-engagable structures have been relocated on the housing to facilitate one
25 handed use. Here, the user-engagable structures are located on a sidewall of the housing that extends between the front and back faces of the housing. In this example, the user-engagable structures comprise push buttons that are

operable to enable the user to interact with the reader. These buttons can correspond to the same commands as the buttons in Fig. 1 (i.e. next page, last page, last section, next section, and the like). In this example, a user might, with their right hand, support the display reader in the palm of their hand and wrap a thumb around the display reader toward the front face of the device. With their thumb, the user can then easily manipulate the user-engagable structures. Alternately, the user might cradle the display reader in the left hand and use their fingers to manipulate the user-engagable structures.

Fig. 2E shows another exemplary embodiment where the user-engagable structures comprise at least one rocker-type switch that can be used to interact with the device. The rocker-type switch can easily allow a user to navigate between the next and last page with one convenient switch.

In one embodiment, a toner “shuttle” system is provided which enables toner to be conveniently reused and shuttled between multiple stations within the device. Fig. 5 shows but one example in which a toner shuttling system is used. There, display reader 100a comprises multiple toner reclamation/development stations which serve to allow reusable toner to be shuttled between multiple different stations and hence, reused in a convenient manner.

In the illustrated and described embodiment two such stations are provided at 500a, 500b. Each individual toner reclamation/development station is desirably configured to perform two separate functions. First, the station is configured so that it can develop toner onto a substrate, such as the loop of material 504. Second, the station is configured so that it can remove or recover toner that has been developed onto the substrate. This imparts a dual purpose to each of the illustrated stations which enhances the lifetime of the device.

Separate charging stations 502a, 502b are provided and serve to charge the loop of material 504.

The Eberhard Reference

5 Eberhard discloses an electronic book with automated look-up of terms using a touch-sensitive screen.

With reference to Figs. 2 and 5, the device's touch-sensitive display 34 includes a touch screen 74 which is mounted on top of an LCD display 76. The LCD display 76 is equipped with a backlight (not shown) which can be turned
10 ON and OFF using the power button 36. The touch screen 74 extends to or slightly beyond the inward-facing edge 78 of the device's bezel. (See column 5, lines 63-67).

LCD display 76 has four fixed icons displayed thereon to form four respective function keys: an orientation key 80, a user-definable "hotkey" 82, a
15 book menu key 84, and a library menu key 86. Each icon is in the form of an orientation-independent image that conveys meaning regardless of the orientation in which the device is being held. (See column 6, lines 6-11).

When the orientation key 80 is touched, the device displays four arrows (Fig. 17), each of which can be touched to select one of four possible display
20 orientations (0, 90, 180 or 270 degrees relative to the base 50 of the device). Using this feature, the user can select a text orientation which corresponds to the user's preferred device orientation and gripping method. For example, a left-handed user may choose the device/text orientation in which the gripping area 50 falls on the left-hand side of the device (as in Fig. 6), and a right-
25 handed user may choose the opposite orientation. The combination of the weight-concentrated gripping area 50 and the ability to change the display

orientation allows the device to be used in multiple different orientations without sacrificing comfort. (See column 6, lines 17-31).

An important feature of the device, as noted in column 7, lines 40-48, is a user interface method for allowing the user to define the hotkey function using an intuitive drag-and-release technique. This method is illustrated in example form by Figs. 6 and 7. With reference to Fig. 6, the user initially (while presumably holding the device in one hand) brings up the menu or sub-menu that contains the target hotkey function. As depicted by Fig. 7, the user then touches the hotkey 82 with the stylus 92 (or the user's finger presumably on the other hand), drags the stylus to the target item, and then removes the stylus from the touch screen 74.

Thus, Eberhard appears to disclose a device that requires two hands for operation.

The Yamaguchi Reference

Yamaguchi discloses an image display medium and an image-forming apparatus for forming an image on the image display medium. As shown in Fig. 1, an image-forming apparatus 12 comprises a image display medium 10 that is adapted so that a spacer, black particles 18 and white particles 20 are contained between a display substrate 14 on the side of image display and a non-display substrate 16 facing the display substrate 14. The display substrate 14 and the non-display substrate 16 are provided with transparent electrodes 205.

The image display medium 10 is described, in this embodiment, as a glass substrate with a transparent electrode ITO. The non-display substrate 16 constitutes the outside of the image display medium 10. An inner surface 206 in contact with the particles of the glass substrate is coated with a

polycarbonate resin (PC-Z) to a described thickness. A central portion of a silicone rubber plate 204 is cut out to form a space, and this silicone rubber plate is mounted on the non-display substrate 16. Spherical fine particles having a particular constitution are sifted out on the square space cut in the silicone rubber plate through a screen. Subsequently, the display substrate 202 is closely adhered to the silicone rubber plate, and the two substrates are held with a double clip under pressure to closely adhere the silicone rubber plate to the two substrates and form the image display medium 10.

Yamaguchi describes other types of image display media, but none are disclosed as comprising a loop of material.

Applicant's Claimed Embodiments

Claim 1 recites an electronic display device comprising:

- a housing;
- a display area provided within the housing to display content for a user;
- memory within the housing to hold data that is to be rendered into user-viewable content;
- an electrophotographic assembly within the housing configured to electrophotographically render user-viewable content from the data that is held in the memory;
- a loop of material disposed proximate the electrophotographic assembly and configured to receive electrophotographically rendered content and present the content for user viewing within the display area; and
- a control area on the housing comprising one or more user-engagable structures to permit a user to interact with the device, the control area being positioned on the housing to accommodate one-handed use of the device.

In making out the rejection of this claim, the Office argues that Eberhard discloses a device comprising one or more user-engagable structures

accommodating one-handed use and cites to column 4, lines 11-12, as well as Fig. 7 in support therefore. As noted above, however, Eberhard's disclosure does not appear to be consistent with one-handed use. Rather, Eberhard appears to teach directly away from the claimed subject matter by specifically teaching that its device can be held in one hand, and engaged with a stylus held in the other hand. Accordingly, for at least this reason, this claim is allowable.

The Office admits that Eberhard does not disclose an electrophotographic assembly within the housing or a loop of material disposed proximate the assembly. The Office then relies on Yamaguchi and argues that it discloses such a loop of material. Applicant respectfully disagrees. As noted above, Yamaguchi appears to disclose no such loop of material. Rather, Yamaguchi's image display media appear to be formed from components that do not define a loop of material, as those terms are used in the context of Applicant's disclosure. Accordingly, for at least this additional reason, this claim is allowable.

The Office has failed to make out a case of prima facie obviousness of claim 1 over the cited references and, accordingly, this claim is allowable.

Claims 2-6 depend from claim 1 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 1, are neither disclosed nor suggested by the references of record, either singly or in combination with one another.

Claim 7 recites an electronic display device comprising:

- a housing;
- a display area provided within the housing to display content for a user;
- memory within the housing to hold data that is to be rendered into user-viewable content;

- an electrophotographic assembly within the housing configured to electrophotographically render user-viewable content from the data that is held in the memory, the content being renderable by the assembly at at least 300 dpi;
- 5 • a loop of material disposed proximate the electrophotographic assembly and configured to receive electrophotographically rendered content and present the content for user viewing within the display area; and
- 10 • a control area on the housing comprising one or more user-engagable structures to permit a user to interact with the device, the control area being positioned on the housing to accommodate one-handed use of the device.

In making out this rejection, the Office argues that this claim is rejected for reasons similar to claim 1 and, in addition, over Sakaue which discloses content displayed at 600 dpi. Applicant respectfully disagrees with the Office's rejection and traverses the rejection. Specifically, as pointed out above, the combination of Eberhard and Yamaguchi does not disclose or suggest the recited "loop of material" or a control area positioned on a housing to accommodate one-handed use of the device. Accordingly, at least because of these deficiencies the Office has failed to make out a prima facie case of obviousness and this claim is allowable.

Claims 8-11 depend from claim 7 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 7, are neither disclosed nor suggested by the references of record, either singly or in combination with one another.

Claim 12 recites an electronic display device and has been cosmetically amended to provide antecedent basis for the element "the loop of material" which is recited in one of its dependent claims—claim 15. Specifically, claim 12 recites:

- a housing;
- a display area provided within the housing to display content for a user;
- memory within the housing to hold data that is to be rendered into user-viewable content;
- a print media comprising a loop of material within the housing and configured to display, with toner, user-viewable content for a user;
- a toner shuttling system within the housing configured to shuttle toner between different locations within the housing from which the toner can be used and reused; and
- a control area on the housing comprising one or more user-engagable structures to permit a user to interact with the device, the control area being positioned on the housing to accommodate one-handed use of the device.

In making out the rejection of this claim, the Office argues that Eberhard discloses all of the features of this claim except for a toner shuttling system configured to shuttle toner between different locations from which the toner can be used and reused. Applicant respectfully disagrees and traverses the Office's rejection for the following reasons. With respect to the cosmetic amendment made to this claim (i.e. incorporation of "the loop of material" to provide antecedent basis to claim 15), neither Eberhard nor Yamaguchi disclose or suggest any such subject matter. Accordingly, for at least this reason, this claim is allowable.

Claims 13-15 depend from claim 12 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 12, are neither disclosed nor suggested by the references of record, either singly or in combination with one another.

Claim 16 recites a method of displaying images comprising:

- providing a hand-held, portable display device having a control area containing user-engagable structures that permit a user to interact with the device, the structures being positioned ***to accommodate one-handed operation of the device***, the device comprising an electrophotographic assembly configured to electrophotographically render user-viewable content, and ***a loop of material proximate the electrophotographic assembly*** to receive electrophotographically rendered content and present the content to a user for viewing;
- ***advancing the loop of material*** through the electrophotographic assembly;
- electrophotographically forming an image on the loop of material; and
- displaying the image for a user to view.

In making out the rejection of this claim, the Office argues that it is rejected for reasons similar to those used to reject claim 1. However, as noted above, neither Eberhard nor Yamaguchi singly or collectively disclose or suggest a method having the features that are highlighted in bold italics above. Accordingly, the Office has failed to make out a case of prima facie obviousness and this claim is allowable.

Claims 17-20 depend from claim 16 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 16, are neither disclosed nor suggested by the references of record, either singly or in combination with one another.

Conclusion

All of the claims are in condition for allowance. Accordingly, Applicant respectfully requests a Notice of Allowability be issued forthwith. If the next anticipated action is to be anything other than issuance of a Notice of

Allowability, Applicant respectfully requests a telephone call, at the number listed above, for the purpose of scheduling an interview.


Version of the Amended Claims with Markings to Show Changes
Made

12. (Amended) An electronic display device comprising:
- 5 a housing;
- a display area provided within the housing to display content for a user;
- memory within the housing to hold data that is to be rendered into user-viewable content;
- a print media comprising a loop of material within the housing and
- 10 configured to display, with toner, user-viewable content for a user;
- a toner shuttling system within the housing configured to shuttle toner between different locations within the housing from which the toner can be used and reused; and
- a control area on the housing comprising one or more user-engagable structures
- 15 to permit a user to interact with the device, the control area being positioned on the housing to accommodate one-handed use of the device.

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Respectfully Submitted,

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